

REMARKS

These remarks follow the order of the paragraphs of the office action. Relevant portions of the office action are shown indented and italicized.

In order to bring this application to allowance quickly, independent claim 1 is amended to include all the limitations of objected-to claim 6, bringing claim 1 to allowance. Claim 6 is canceled. This has the effect of narrowing all original claim 1.

This also brings claims 2-5 and 10-12 to allowance at least in as much as each ultimately depends on allowable amended claim 1. Claims 7-9 and 13 which depended on claim 6 are amended to depend on claim 1. Thus, claims 1-5, 7-13 are brought to allowance.

Original claims 14-20 are canceled and removed from further consideration in this application.

Applicants are not conceding in this application that original claims 1-20 are not patentable over the rejections and art cited by the Examiner, as the present claim amendments and cancellations are only for facilitating expeditious prosecution of the allowable subject matter in objected-to claims 6, 7 and 13, noted by the Examiner. Applicants respectfully reserve the right to pursue these and other claims in one or more continuations and/or divisional patent applications.

DETAILED ACTION

In formation Disclosure Statement

The information disclosure statement (IDS) submitted on 9/24/2004 and 2/27/2006 was filed after the filing date of the instant application on 13/3/2003. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner is considering the information disclosure statement.

Claim Rejections -35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 8-9 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 20 recites that the client watches channel S11 and its parent channel simultaneously. The examiner notes that in the system disclosed in the instant application, multiple video streams can be received simultaneously until a point is reached. Once the point is reached channel merging occurs in order for a first user to use the same channel as another user, even though the first user started watching a program at a later time than another user. Therefore, in the system disclosed in the instant application, it is not possible for a user to watch a channel SI I and a parent channel simultaneously.

Claim Rejections -35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 10, 12 and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zahorjan et al. (U.S. Patent No. 6,859,839) in view of Brooks (U.S. Patent Application No. 2003/0056217).

Referring to claim 1, Zahorjan discloses a channel merging method for a VOD system (see Column 4, Lines 35-46).

Zahorjan also discloses that in response to requests from a plurality of clients for a video program (see Column 6, Lines 59-63 for a first client request for a video program and Column 7, Lines 44 through Column 9, Line 45 for subsequent client requests), establishing a root channel and at least one sub-channel (see Figure 8a and Column 7, Lines 7-13 for a root node and subsequent sub-channel nodes, wherein each node requests a request for a video program made at a certain point in time subsequent to the first request, represented by the root node), said root channel being established according to a request from a client that makes an earliest request (see again Figure 8a and Column 7, Lines 7-13 for the root node being requested by the first client request made at the earliest point in time), each of said sub-channels being established corresponding to request of a client that makes a later request (see Figure 8a and Column 7, Lines 51-52 for the second request being placed in the hierarchy 100 under the root channel, wherein the second request is made at a later time).

*Zahorjan also discloses monitoring variation of a number of the client that are using each established channel (see **Column 10, Lines 44-64 for maintaining a list L of every active stream**), but fails to teach maintaining the established channel if the number of clients using a monitored channel is not zero, and closing the established channel if the number of the clients using the monitored channel becomes zero.*

*Brooks discloses a stream management method that teaches maintaining the established channel if the number of clients using a monitored channel is not zero, and closing the established channel if the number of the clients using the monitored channel becomes zero (see **Figures 4 and 6-7 and Paragraph 0025 and 0028-0030**).*

*At the time the invention was made, it would have been obvious to a person of ordinary skill in the art, to modify the channel merging process, as taught by Zahorjan, using the channel allocation process, as taught by Brooks, for the purpose of providing an efficient utilization of the limited bandwidth of the distribution network (see **Paragraph 0003 of Brooks**).*

*Referring to claim 2, Zahorjan discloses that said root channel and each of said sub-channels are established in response to a play start request (see **Column 6, Lines 59-63 and Column 7, Lines 44-47**).*

*Referring to claim 3, Zahorjan discloses that said root channel and said sub-channels form a tree structure (see **Figures 8a-8b**).*

*Referring to claim 4, Brooks also discloses indicating the number of clients that are using each channel as a count parameter (see **Figure 4**).*

*Brooks also discloses decreasing the value of said count parameter in response to occurrence of a stopping event of channels and subchannels (see **step 608 in Figure 7**).*

Brooks also discloses closing said channel on the server side if the value of said count

parameter becomes zero (see step 616 in Figure 7).

*Referring to claim 5, Brooks discloses that said channel is maintained on the server side if the value of said count parameter is not zero (see **Figure 6**), and said clients having performed the event of stopping no longer receive the programs being played on said channel (see **Figure 7** and **note if a channel is no longer being used by a client, then the program is no longer being received**).*

*Referring to claim 10, Zahorjan discloses that if said client's request at time t is a starting request, a start time parameter is set to be t and an object offset parameter is set to be 0 in the sub-channel (see **Figures 9a-9c**).*

*Referring to claim 12, Brooks discloses that if said stopping operation is due to the ending of said video program, said sub-channel is directly closed and all resources of said sub-channel are released (see **Figure 7**).*

Referring to claim 14, see the rejection of claim 1.

Referring to claims 15-16, see the rejection of claims 2-3.

Referring to claims 17-19, see the rejection of claim 1.

Referring to claim 20, see the rejection of claim 1.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zahorjan et al. (U.S. Patent No. 6,859,839) in view of Brooks (U.S. Patent Application No. 2003/0056217) in view of Cheung et al. (U.S. Patent No. 2002/0114330).

Referring to claim 11, Zahorjan and Brooks disclose all of the limitations in claim 2, but fails to teach that if said client's request at time t is a jumping request, and the object

offset time of said jumping is s, a start time parameter is set to be t and an object offset parameter is set to be s in the sub-channel.

Cheung discloses that client's request at time t is a jumping request, and the object offset time of said jumping is s, a start time parameter is set to be t and an object offset parameter is set to be s in the sub-channel (see Paragraphs 0097-0102).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art, to modify the channel merging/channel allocation process, as taught by Zahorjan and Brooks, using the interactive stream management process, as taught by Cheung, for the purpose of providing both scalability and full interactivity by allowing a user to navigate through a video stream at his/her leisure (see Abstract and Paragraph 0097 of Cheung).

Allowable Subject Matter

Claims 6-7 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In response, the applicant respectfully states appreciation for the allowability of claims 6-7 and 13.

In order to bring this application to allowance quickly, independent claim 1 is amended to include all the limitations of objected-to claim 6, bringing claim 1 to allowance. Claim 6 is canceled.

This also brings claims 2-5 and 10-12 to allowance at least in as much as each ultimately depends on allowable amended claim 1. Claims 7-9 and 13 which depended on claim 6 are amended to depend on claim 1. Thus, claims 1-5, 7-13 are brought to allowance.

Claims 14-20 are canceled.

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It is anticipated that this brings claims 1-5, and 7-13 to allowance. Please contact the undersigned if any question remains.

Please charge any fee necessary to enter this paper to deposit account 50-0510.

Respectfully submitted,

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